DOCUMENT RESUME

ED 189 033 SP 016 126

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TITLE Teaching-Learning: An Interaction Process.
PUB DATE 80
NOTE 14p.

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Cognitive Processes; Elementary Education; *Humanistic Education; Learning Processes; Middle Schools; Movement Education; Perceptual Motor Coordination; *Physical Education; *Psychomotor Skills; Teacher Influence; *Teaching Methods

ABSTRACT

Examples are given illustrating the development of a teaching-learning process for an elementary and middle school physical education program. Developmental objectives in the physical, psychomotor, cognitive, and affective domains are outlined. Program content, teaching and evaluation methods, and teacher influences are described for each of these areas. (JD)

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# TEACHING-LEARNING: AN INTERACTION PROCESS

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The teaching-learning process consists of a continous interaction between the learner and the instructional environment. The learner with a set of behaviors, abilities, interests, needs and purposes enters an environment that has definitive goals, objectives, meanings and values, and the catalyst between the two being the teacher.

In this role, the teacher must select, activate, monitor and manipulate the "best mix" of elements that constitute the teaching-learning process. These major elements are:

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1. Process guidelines - a set of valid scientific principles and concepts.
2. Purpose and intent-instructional goals and objectives.
3. Content - relevant and significant activities and experiences.
4. Delivery system - Instructional strategies that contribute to the determined objectives.
5. Assessment - valid and reliable techniques for determining pre, formative and summative status.
6. Interventions - Direct or indirect teacher influences that positively or negatively effect the process and product.

Specific sub-elements for these major elements are identified in the four charts. These elements must be analyzed and interpretated not only as to their specific contributions in the teaching-learning process but also as to their relationships and interdependencies. In this way, the interactions that occur between the learner and the educational environment are not left solely to chance but have focus and direction.

SP 016126

The following example illustrates the development of a teaching-learning process for an elementary and middle school physical education program by selecting the "best mix" of sub-elements from the charts.

Principles and Concepts

Principles and concepts were formulated for selecting and presenting elementary and middle school activities. They were:

1. Fundamental movement activities are learned, not taught. Activity experiences should be structured sothat learning takes place.
2. The selection of activities should be based upon a desired specific outcome.
3. The activity experience should provide a creative challenge and movement response for the learner.
4. The flexibility of the activity should allow the learner to experiment with movement.
5. The basic method of teaching fundamental movement patterns is by providing experiences for experimentation and exploration.
6. Guding corrections and cues should be given to the learner during the activity.
7. Provide sufficient amount of equipment and activity areas for maximum participation.

These principles served as guidelines for developing a series of progressive activities and instructional strategies for the elementary and middle school grades, that included, fundamental movements, ball handling skills and rope jumping skills.

## Objectives

An additional criterion for selection of the activities and design of instructional materials was their relative contributions to the following objectives of physical education:

A. Physical Domain
   1. Leg strength and endurance
   2. Cardiovascular endurance
   3. Flexibility

B. Psychomotor Domain
   1. Perceptual-motor abilities
      a. Balance
      b. Kinesthesis (body image, body awareness, laterality and directionality)
      c. Visual discrimination (Tracking and figure ground extraction)
      d. Visual motor coordination (eye-hand-foot coordination)
   2. Fundamental Movement Skills
      a. Locomotor (Running, hopping, and jumping)
      b. Non-locomotor (bending, stretching, twisting and turning)
      c. Locomotor combinations (skipping, landing, and changing directions)
      d. Propulsive skills (throwing)
      e. Receptive skills (catching)

C. Cognitive Domain
   1. The use of judgment related to time, form, space, speed, and direction in the use of activity implements, balls, and self.
   2. The solution of developmental problems through movement.

D. Affective Domain
   1. The ability to be challenged and have fun in an activity.
   2. An awareness of what the body is capable of doing at a specific time.
   3. The knowledge of what one is and the ability to accept this knowledge of one's capacity and potential.

## Content

The following activities were selected:

A. Fundamental Movement Activities
   1. Locomotor skills
      a. Running
      b. Leaping
      c. Jumping
      d. Hopping

2. Non-Locomotor skills
   a. Stretching
   b. Bending
   c. Twisting
   d. Turning

3. Locomotor Combinations
   a. Skipping
   b. Starting
   c. Stopping
   d. Changing direction

B. Ball Handling Activities
   1. Throwing
   2. Bouncing
   3. Catching

C. Rope Jumping Activities
   1. Individual
   2. Partner
   3. Group

Instructional Strategies

1. Organization
   a. A station approach with designated activities and equipment.
   b. Students elect or are assigned to a station.
2. Communication
   a. Written task sheets
   b. Verbal - dependent upon age group
3. Instructional Materials
   a. Individual, partner and group progressive task sheets.
   b. Three levels categorized by difficulty and number of participants involved.
4. Teaching Style
   a. Individual
   b. Reciprocal
   c. Small Group
   d. Problem solving
5. Implementation
   a. Post task sheets at the stations.
   b. Provide sufficient equipment and supplies so that all students are actively involved.
   c. Students should be given a thorough orientation as to the nature and purpose of the activity, types of tasks, use of materials, competencies to be achieved, evaluation, and practice procedures.
   d. Dependent upon the grade level, the teacher can provide a demonstration and explanation of the tasks. The task sheets can be supplemented by visual aids.
   e. Students elect a starting level based upon their level of

ability. After completing the designated minimal competency task for that level and based upon self, peer or teacher evaluation, they may proceed to the next level.

f. After completing the minimal tasks, the student can elect to complete the designated advanced tasks at any level.

Evaluation

a. Formative evaluation is used either by self,peer or teacher
b. Criterion references are the designated tasks for achieving mastery.
c. Summative evaluation is based upon qualitative and quantitative degrees of task and level achievement.

Teacher Influences

a. A humanistic approach should be used to create a learning environment in which there is empathy, respect and sensitivity for the students as individuals.
b. Use skillful interactive behaviors which have positive effects on learning.

OBJECTIVES

Affective Domain
- Healthy response to Physical Activity
- Self-Esteem
- Self-Concepts
- Value Systems

| CONTENT | INSTRUCTIONAL STRATEGIES | EVALUATION | TEACHER INFLUENCES |
|---|---|---|---|
| Positive reactions | Guided Discovery | Self-concept scales | Indirect |
| Appreciations | Movement Exploration | Personality tests | Direct |
| Enjoyment | Problem Solving | Affective behavior inventories | Verbal |
| Self-awareness | Individualized | Anecodotal records | Non-verbal |
| Aspiration levels | Personalized | Observational check lists | Managerial |
| Self-perceptions | Humanistic | Attitudinal scales | Monitoring |
| Feelings | Game simulation | Value appraisals | Feedback |
| Social adjustment | Role playing | Social adjustment indexes | Reactions |
| Values Clarification | Values clarification exercises | | Interactions |
| Attitudes | | | Values |
| Sportsmanship | | | Modeling |
| Awareness | | | |
| Teamwork | | | |

PRINCIPLES AND CONCEPTS

1. An instructional setting should provide opportunities for students to:
   a. Receive (Attend)
   b. Respond
   c. Clarify values
   d. Organize values
   e. Interact

2. Unplanned and unrecognized values may be taught and learned by a "hidden curriculum."

OBJECTIVES

Cognitive Domain
- Knowledge, facts information
- Intellectual Skills and abilities
- Application

| CONTENT | INSTRUCTIONAL STRATEGIES | EVALUATION | TEACHER INFLUENCES |
|---|---|---|---|
| Game rules | Command | Entry Assessment | Indirect |
| Safety Measures | Task | Formative | Direct |
| Game etiquette | Guided Discovery | Summative | Verbal |
| Terminology | Problem Sovling | ---------- | Non-verbal |
| Strategies | Cohort | Criterion Referenced | Managerial |
| Activity effects | Individualized | Norm Referenced | Monitoring |
| Judgmental ability | Contracting | ---------- | Feedback |
| Problems | Prescription | Standardized Knowledge Tests | Reactions |
| | Mastery | Teacher-made tests | Interactions |
| | Competency Based | Observational check list | Values |
| | Continuous Progress | Rating scales | Modeling |
| | Personalized | | |
| | Humanistic | | |
| | Differential Instruction | | |

PRINCIPLES AND CONCEPTS

1. Cognitive Development Consits of six basic levels or stages of learning:
   a. Knowlege, facts, information
   b. Comprehension
   c. Application
   d. Analyis
   e. Synthesis
   f. Evaluation

2. A teaching/learning setting should provide experiences for students to use low and high levels of cognition.

OBJECTIVES
Physical Domain
- Muscle Strength
- Muscle Endurance
- Cardiovascular Endurance

Flexibility

| CONTENT | INSTRUCTIONAL STRATEGIES | EVALUATION | TEACHER INFLUENCES |
|---|---|---|---|
| Developmental Activities | Game-type Activities | Entry Assessment | Indirect |
| Exercises | Calisthenics | Formative | Direct |
| - General | Circuit Training | Summative | Verbal |
| - Specific | Weight Training | --- | Non-verbal |
| Body Mechanics | Interval Training | Criterion References | Managerial |
| | Obstacle Courses | Norm References | Monitoring |
| | Mimetics | --- | Feedback |
| | Movement Exploration | Standardized Test Batteries | Reactions |
| | | Specific test items | Interactions |
| | | Improvement Progress | Values |
| | | | Modeling |

PRINCIPLES AND CONCEPTS

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1. The selection, design and implementation of conditioning program should consider:
   a. The pre-entry level of the individual.
   b. The contribution of the program to objectives.
   c. It's appropriateness to sound principles of body mechanics.
   d. The body systems involved.

2. The quantitative and qualitative degrees of physiological changes is determined by manipulating three variables:
   a. Intensity
   b. Duration
   c. Repetitions

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OBJECTIVES

Psychomotor Domain
- Perceptual-motor qualities
- Fundamental Movements
- Game, Sport and Dance skills

CONTENT

Developmental Activities
Fundamental Movement Activities
Self-Testing Activities
Rhythms-Dance Activities
Game Activities
Team Sports
Individual Sports
Dual Sports
Aquatic Activities
Outdoor-Education Activities

INSTRUCTIONAL STRATEGIES

Command
Task
Guided Discovery
Problem Solving
Cohort
Individualized
- Contracting
- Prescription
- Mastery
- Competency Based
- Continuous Progress

Personalized
Humanistic
Differential Instruction

EVALUATION

Pre-entry Assessment
Formative
Summative
---
Criterion Referenced
Norm Referenced
---
Standardized Skill Test
Check List
Rating Scales
Motor Fitness Tests
Perceptual-motor Tests

TEACHER INFLUENCES

Indirect
Direct
Verbal
Non-verbal
Managerial
Monitoring
Feedback
Reactions
Interactions
Values
Modeling

PRINCIPLES AND CONCEPTS



1. The time for learning a motor skill varies for every individual.
2. Students should be permitted to progress at their own rates.
3. Learning need not be restricted to a regularly scheduled class period.
4. Not all students can learn from one type of instruction.
5. Learning tasks should be segmented into smaller learning units.
6. Learning objectives should be specified.
7. Opportunities should be provided for individual broader or in-depth learning.
8. Each student should be personally and actively involved in the learning process.
9. Students should master specified objectives before moving to the next objective.

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